

FISHKUN, WILLOW CREEK AND BENTON LAKE  
NATIONAL WILDLIFE REFUGES  
Narrative Report  
January 1 - April 30, 1960

REFUGE PERSONNEL

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BUREAU OF SPORT FISHERIES AND WILDLIFE  
FISH AND WILDLIFE SERVICE  
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Three trips were made east of the mountains this report period. The first trip was unscheduled and was made to return a load of grain and acquaint the assistant manager of the National Bison Range with these satellite refuges. The second and third trips were scheduled, however, a freak snow storm prior to the last trip prevented access to both the Pishkun and Benton Lake Refuges. Seven man days were consumed in trips to the eastern refuges.

I. GENERAL

A. Weather Conditions.

Weather data pertinent to the general area of these refuges is recorded by the official weather station of the United States Department of Commerce, Choteau, Montana. A copy of the official weather data report is forwarded to the Ninepipe Refuge once a month. This information is not an accurate indication of weather conditions on any of the three refuges, however, it does present an excellent picture of the general weather conditions in central Montana. The Pishkun and Willow Creek areas have a slightly lower precipitation rate than that shown below and the Benton Lake area is believed to be somewhat higher in total precipitation received through the winter period.

The following table incorporates a 15 year average as the normal precipitation rate of the area.

	<u>Snowfall</u>	<u>Precipitation</u>			<u>Max.</u>	<u>Min.</u>
		<u>This Month</u>	<u>Normal</u>		<u>Temp.</u>	<u>Temp.</u>
January	3.0	.14	.29		60	- 7
February	3.3	.19	.57		52	-21
March	-	.04	.42		70	-23
April	18.0	1.19	.57		74	19
Totals	24.3	1.56	1.85	Extremes	74	-23

B. Habitat Conditions.

1. Water. The precipitation rate during the first three months of this period was far below average for the area. This had very little effect on vegetation development inasmuch as the soil moisture content remained exceptionally high from the previous period. The slowly melting 18 inch snowfall of April gave a considerable boost to vegetative growth during its' most critical period. The overall water conditions, despite the below normal precipitation rate, has been considered excellent this year.

The following tables depict water levels on the Pishkun and Willow Creek Reservoirs as compared to the past five years.

PISHKUN

Crest of Spillway - 4374.0  
Bottom of Outlet - 4342.0  
Elevation difference 32.0

End of:	1960	1959	1958	1957	1956	1955
January	4364.1	4362.5	4356.5	4360.3	4360.0	4362.5
February	4363.9	4362.4	4351.1	4359.9	4360.0	4362.5
March	4363.9	4362.2	4355.9	4359.9	4359.7	4362.0
April	4369.3	4362.0	4360.3	4361.9	4359.4	4362.5

The elevation of water levels were higher than the previous year, with a difference of 6.9 feet above the average of the past five years. A heavy surplus of water was available throughout the past six months. This condition is not anticipated during 1960, as snow conditions have been reported at 80 per cent of the normal for the east slope of the Divide.

WILLOW CREEK

Crest of Spillway - 4142.0  
Bottom of Outlet - 4085.0  
Elevation difference 57.0

End of:	1960	1959	1958	1957	1956	1955
January	4127.3	4138.9	4132.0	4132.5	4138.0	4136.2
February	4127.6	4139.9	4132.6	4135.6	4138.0	4136.5
March	4131.5	4139.5	4133.3	4136.0	4139.1	4137.0
April	4138.1	4139.5	4136.0	4136.4	4139.1	4137.5

This reservoir was drained during the previous period and has been receiving a steady influx of water throughout the period. The feeder canal carried very little water during the winter months. Willow Creek proper supplied nearly all the water presently stored in the reservoir. The Willow Creek Reservoir has a natural drainage, Willow Creek proper, capable of supplying a large percentage of the irrigation demands during periods of exceptionally wet weather.

2. Food and Cover. The Pishkun and Willow Creek Refuges are once again straining to produce food and cover needed on these areas. Waterfowl habitat on the two areas consists primarily of aquatic organisms for food and the gravel beach or open water for cover. Each refuge has a small area of dense vegetation, capable of providing cover to a limited number of nesting waterfowl. Both reservoirs have poor habitat for waterfowl, however, they provide a good resting site during the migratory flights. The principal source of food is the cereal crop lands in the vicinity of these refuges.

The upland Range of both Pishkun and Willow Creek is continuing to improve over conditions during previous years. One inspection of these range lands in March did not provide enough information to forecast range conditions this year.

The Benton Lake Refuge experienced exceptional climatic conditions in relation to vegetative growth and the anticipated forage production of the area is considered excellent. Adequate food and cover was available to waterfowl and upland game birds this report period.

## II. WILDLIFE

### A. Migratory Birds.

There were no waterfowl present during the first two visits to these refuges, and inaccessability prevented a census count during the last trip. Many Mallards, Redheads, Canvasbacks and Scaup were observed on potholes adjacent to highways in the area; therefore, it is assumed the normal population of these birds utilized the refuge this period. The manager of Freezeout Lake, State Waterfowl Refuge, Fairfield, reported waterfowl movements and populations were slightly above that recorded during 1959. This should have a direct relationship to movements and numbers present on the Willow Creek and Pishkun Refuges. There were no waterfowl observed on the Benton Lake Refuge, by refuge personnel. Local residents reported an occasional flight of ducks and geese utilized the lake bed area during March and April.

### B. Upland Game Birds.

Upland game birds were not observed on the Willow Creek Refuge this period. Ring-necked phasants were recorded on Pishkun and Benton Lake for the only species of game birds seen during the period. There are no population figures or other information available at this writing.

### C. Big Game Animals.

Mule deer were sighted on Benton Lake during two trips, one herd of five was counted March 23, and another herd of nine on April 26. These animals were not recorded on the Willow Creek and Pishkun Refuges.

Antelope were present on Benton Lake and Pishkun during this period. One herd of 16 was recorded on Pishkun during February 1. A group of ten were observed on Benton Lake during the trip of March 21.

### D. Predators.

No predators were recorded this period. An estimated population of ten coyotes utilize the Benton Lake area. This is based on information furnished by local residents.

There are no records on parts E through I of this report period.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Development.

No development projects were undertaken from the Ninepipe office during the winter period. The development program of the Benton Lake Refuge was believed discontinued during January, however, progress was resumed sometime in April. Progress reports and other information pertinent to the development of Benton Lake Refuge is handled by the Regional Office.

Sections B - C - D - E not applicable to this report.

#### F. Fires.

No reported fires occurred on any of the three refuges during the winter period.

### IV. RESOURCE MANAGEMENT

#### A. Grazing.

Five special use permits were issued this period. Four of these permits cover grazing units 2, 3, 4, 5-G of the Benton Lake Refuge and the other covers grazing on the Pumping Station area near Power, Montana. These five permits carry a total maximum of 894 animal unit months. Units 5-G and 2-G are charged on the basis of use, whereas the others are chargeable as per acre units.

#### B. Haying.

Special use permits to cover haying operations have not yet been issued. These are for the Benton Lake Refuge.

#### C. Other Use;

The only other use permitted on the Benton Lake Refuge consists of raising flax or cereal crops on unit 1-A. This is a forty acre farming unit adjacent to the permittee's farming operations.

### V. FIELD INVESTIGATION OR APPLIED RESEARCH

None during the period.

### VI. PUBLIC RELATIONS

Not covered in this report.

### VII. OTHER ITEMS

None this period. A few photographs are enclosed at the conclusion of this report.



SIGNATURE PAGE

Submitted by:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
Refuge Manager

\_\_\_\_\_  
(Title)

Date: May 18, 1960

Approved, Regional Office:

Approved, National Bison Range:

Date: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Title)



Access route to the Willow Creek Refuge. This is one of the many drifts which occurred during the April snow storm. In some areas, such as that shown, the snow was more than six feet deep. No snow fell west of the Divide during this storm.



The Benton Lake Refuge April 27. This was as far as Bootlegger trail was plowed due to the road being under construction. The sign was installed for the construction work, not the snow. This is the south east corner of The Benton Lake Refuge.